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Oregon Water Supply Availability Committee May 11, 2022





May 11, 2022, SNOTEL Water Year Precipitation is 155% of 1991-2020 median

OREGON SNOWPACK GRAPHS – May 11, 2022



Late Peak

Willamette Peak Snowpack was on <u>April 21</u> at 100% of Normal Median peak (<u>March 28</u>). Current snowpack is 81% of Peak Median (184% of median today)

Late Peak

Rogue-Umpqua Peak Snowpack was on <u>April 23</u> at 70% of Normal Median peak (<u>April 1</u>). Current snowpack is 59% of Peak Median (102% of median today)

Early Peak

Klamath Peak Snowpack was on January 8 at 67% of Normal Median peak (<u>March 17</u>). Current snowpack is 33% of Peak Median (96% of median today)



OREGON SNOWPACK GRAPHS – May 11, 2022

Near-Normal Peak

John Day Peak Snowpack was on March 11 at 80% of Normal Median peak (March 17). Current snowpack is 14% of Peak Median (0% of median today)

Near-Normal Peak

Grande Ronde-Burnt-Powder-Imnaha Peak Snowpack was on March 23 at 82% of Normal Median peak (March 30). Current snowpack is 63% of Peak Median (148% of median today)

Late Peak

Hood-Sandy-Lower Deschutes Peak Snowpack was on April 21 at 124% of Normal Median peak (March 28). Current snowpack is 110% of Peak Median (199% of median today)

OREGON SNOWPACK GRAPHS – May 11, 2022



Late Peak

Upper Deschutes-Crooked Peak Snowpack was on <u>April</u> 23 at 78% of Normal Median peak (<u>March 28</u>). Current snowpack is 66% of Peak Median (136% of median today)



Near-Normal Peak

Umatilla-Walla Walla-Willow Peak Snowpack was on <u>March 1</u> at 95% of Normal Median peak (<u>March 18</u>). Current snowpack is 75% of Peak Median (174% of median today) Lake County-Goose Lake



Early Peak

Lake County-Goose Lake Peak Snowpack was on <u>January 9</u> at 68% of Normal Median peak (<u>March 28</u>). Current snowpack is 35% of Peak Median (89% of median today)



Early Peak

Harney Peak Snowpack was on <u>February 28</u> at 70% of Normal Median peak (<u>March 10</u>). Current snowpack is 41% of Peak Median (125% of median today)

Near-Normal Peak

Malheur Peak Snowpack was on <u>March 1</u> at 69% of Normal Median peak (<u>March 4</u>). Current snowpack is 0% of Peak Median (0% of median today)

Early Peak

Owyhee Peak Snowpack was on <u>March 16</u> at 76% of Normal Median peak (<u>March 10</u>). Current snowpack is 13% of Peak Median (120% of median today)



May 11, 2022, SNOTEL Water Year Precipitation is 97% of 1991-2020 median



May 11, 2022, SNOTEL Water Year Precipitation % of 1991-2020 median



SNOTEL 31-Month Precipitation Records – October 1, 2019, through April 30, 2022







May 1, 2022, Streamflow Volume Forecast (MAY – SEP) % of 1991-2020 Median 50% Exceedance Probability

Thank you

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May 2022 Update for

Precipitation & Temperatures

Andy Bryant Service Hydrologist NOAA/NWS Portland Weather Forecast Office

weather.gov/portland & www.nwrfc.noaa.gov



Precipitation



Precipitation Data as of May 10, 2022

water.weather.gov/precip/index.php

5/12/2022

weather.gov/portland & www.nwrfc.noaa.gov

-8

Precipitation – Percentile / Ranking



https://wrcc.dri.edu/wwdt/index.php?region=pnw

NOAA



Recent Temperatures



https://wrcc.dri.edu/wwdt/index.php?region=pnw

weather.gov/portland & www.nwrfc.noaa.gov



May thus far



https://www.nwrfc.noaa.gov/water_supply/wy_summary/wy_summary.php?tab=2

Snow Analysis from NOAA/NWS Remote Sensing Center



https://www.nohrsc.noaa.gov/nsa/index.html

NOAA



Drought Monitor





Mid May Outlook



www.cpc.ncep.noaa.gov

5/12/2022

Probability (Percent Chance)

13-40%

Leaning

hove Norma

Leaning

Salow

Probability (Percent Chance

Above Norma

Climate Prediction Center Outlook May 2022



www.cpc.ncep.noaa.gov

NOAR

Climate Prediction Center Outlook June-July-August 2022



www.cpc.ncep.noaa.gov

NOAR



Climate Prediction Center Outlook July-August-September 2022



www.cpc.ncep.noaa.gov

Current WY Runoff % of Average from Oct 1 – May 10



https://www.nwrfc.noaa.gov/natural/index.html

NOAF

Seasonal Volume Forecast April – September ESP Natural – % of Average



https://www.nwrfc.noaa.gov/natural/index.html

NOAR



Streamflow WY Volume Forecast Willamette at Salem

WILLAMETTE - AT SALEM (SLMO3) Natural Volume Forecasts Forecasts for Water Year 2022 WILLAMETTE - AT SALEM Period OCT to SEP -- Water Year 2022 Official Water Supply 26 ESP with 10 Days QPF Ensemble: 2022-05-10 Issued: 2022-05-10 ESP10 Forecasts Are in KAF 30 Year Forecast % Average 24 Period 90 % 50 % 10 % Average (1991-2020) Exeedence APR-SEP 5401 5646 6345 5119 110 Probability 22 4554 APR-JUI 4949 5177 114 5821 and JAN-SEP 89 11580 12224 10636 10881 Ensemble MIN/MAX JAN-JUL 10184 10412 80 11056 11659 20 MAF MAX OCT-SEP 14619 14864 90 15563 16605 10% Experimental Water Supply Seasonal Volumes, HEFS with 15 days EQPF Ensemble: 2022-05-10 Issued: 2022-05-10 25% APR-SEP 5408 5891 115 6828 5119 16 APR-JUI 4554 4926 5368 118 6301 50% JAN-SEP 10643 11126 91 12063 12224 JAN-JUI 10161 10603 91 11536 11659 14 OCT-SEP 91 16605 14626 15109 16046 75% Reference 12 90% ESP with 0 Days QPF Ensemble: 2022-05-10 Issued: 2022-05-10 \diamond MIN APR-SEP 5335 5816 114 6735 5119 10 4554 APR-JUI 4878 5276 116 6187 JAN-SEP 11051 90 11970 12224 10570 8 JAN-JUL 10114 10511 90 11422 11659 OCT-SEP 14553 15034 91 15954 16605 — 30yr Normal (16.6 MAF) 6 Move the mouse over the desired "Forecast Period" to display a graph. NOV DEC JAN FEB MAR OCT APR MAY Date of Ensemble Most Recent Forecast for ESP10: Issued Date 05/10/2022 Plot Created 05/10/2022 04:10 PDT

🔿 Max Scale 💿 Scale To Data 🔿 Scale To Last 45 Days 🗔 Show Min/Max Ensemble Volume 🗌 Show Tooltips Help



Streamflow WY Volume Forecast ESP 10-day

Site	Last month's 10-day forecast % normal	This month's 10-day forecast % normal
Willamette R at Salem	82	90
Rogue R at Raygold	62	66
Umatilla R nr Umatilla	78	93
John Day R at Service Creek	58	60
Owyhee Dam	69	58

Mostly improvements, with the most pronounced in the North (i.e., Willamette and Umatilla).

Owyhee Dam precipitation did not translate to runoff.

Streamflow WY Monthly Volume Forecast Willamette R at Salem



https://www.nwrfc.noaa.gov/natural/plot/monthly/monthly_natural_forecasts.php?id=SLM03

NOAR

Streamflow WY Monthly Volume Forecast Rogue R near Raygold



https://www.nwrfc.noaa.gov/natural/plot/monthly/monthly_natural_forecasts.php?id=RYG03

Streamflow WY Monthly Volume Forecast Umatilla R nr Umatilla

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https://www.nwrfc.noaa.gov/natural/plot/monthly/monthly_natural_forecasts.php?id=UMA03

Streamflow WY Monthly Volume Forecast John Day R at Service Creek



Streamflow WY Monthly Volume Forecast





NWRFC Water Supply Briefings Schedule

2022 Schedule for Live Water Supply Briefings						
Jan	Feb	Mar	Apr	May	June	
6	3	3	7	5	2	
All presentations held at 10:00am PDT/PST, unless noted otherwise						
Click here for Registration Information						

https://www.nwrfc.noaa.gov/water_supply/ws_schd.cgi?version=20190204v1
Extra slide- NWRFC ESP Traces Owyhee Dam



https://www.nwrfc.noaa.gov/espadp/espadp.cgi

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Oregon WSAC/DRC Drought Status and Climate Updates May 2022

Larry O'Neill CEOAS Oregon State University Oregon Climate Service

Wednesday, May 11, 2022



College of Earth, Ocean, and Atmospheric Sciences





Oregon Climate Service

U.S. Drought Monitor Oregon

April 5, 2022

(Released Thursday, Apr. 7, 2022) Valid 8 a.m. EDT

Drought Conditions (Percent Area)



	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	7. 16	92.84	88.10	75.88	54.05	15.01
Last Week 03-29-2022	7. 16	92.84	88.44	74.25	50.28	15.01
3 Month s Ago 01-04-2022	4. 16	95.84	89.75	75.37	50.84	17.27
Start of Calendar Year 01-04-2022	4. 16	95.84	89.75	75.37	50.84	17.27
Start of Water Year 09-28-2021	0.00	100.00	100.00	96.47	72.10	26.59
One Year Ago 04-06-2021	17.73	82.27	65.94	41.68	13.22	1.48

Intensity:







D3 Extreme Drought

D1 Moderate Drought

D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

Author:

Deborah Bathke National Drought Mitigation Center



droughtmonitor.unl.edu

U.S. Drought Monitor Oregon

May 3, 2022 (Released Thursday, May. 5, 2022) Valid 8 a.m. EDT

Drought Conditions (Percent Area)



Current % areal coverage: None: 10% D0: 6% D1: 15%

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	10.14	89.86	84.21	68.76	50.85	15.71
Last Week 04-26-2022	9.08	90.92	86.14	72.31	53.12	17.30
3 Month s Ago 02-01-2022	4.87	<mark>95.1</mark> 3	88.12	74.05	42.05	16.22
Start of Calendar Year 01-04-2022	4. 16	95.84	89.75	75.37	50.84	17.27
Start of Water Year 09-28-2021	0.00	100.00	100.00	96.47	72.10	26.59
One Year Ago 05-04-2021	0.00	100.00	88.85	64.54	26.09	3.57

Intensity:







D3 Extreme Drought

D1 Moderate Drought

D4 Exceptional Drought

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Author:

David Simeral Western Regional Climate Center



droughtmonitor.unl.edu

U.S. Drought Monitor

Oregon



May 3, 2022

(Released Thursday, May. 5, 2022) Valid 8 a.m. EDT

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Author:

David Simeral Western Regional Climate Center



droughtmonitor.unl.edu

Current % areal coverage: None: 10% D0: 6% D1: 15% D2: 18% D3: 35% D4: 16%

84% of Oregon still technically in drought



Oregon Percent Area in U.S. Drought Monitor Categories



Oregon Percent Area in U.S. Drought Monitor Categories



Oregon as a state experienced a wet and cool April

Rankings relative to the 128-year historical data record:

7th wettest April 10th coolest April

All counties experienced were on the cool and wet end of their respective period of records





For the Calendar Year 2022 to date, Oregon as a state was much drier than normal and slightly warmer

23rd driest YTD 39th warmest YTD

Exceptions were mainly in northern Oregon, which was near median in terms of precipitation





Long-term precipitation rankings



Statewide rankings: 12-month: 27th driest 24-month: 18th driest 36-month: 5th driest











Standardized Precipitation-Evapotranspiration Index, 7-Months Ending in April Oregon

Data Source: WRCC/UI, Created: 5-11-2022



Standardized Precipitation-Evapotranspiration Index, 12-Months Ending in April Oregon

Data Source: WRCC/UI, Created: 5-11-2022



Standardized Precipitation-Evapotranspiration Index, 30-Months Ending in April Oregon

Data Source: WRCC/UI, Created: 5-11-2022









Water Supply Availability Committee Oregon Water Resources Department Ryan Andrews May 11th, 2022

Sprague River

Drought Declaration Status Map













CATEGORY CUMULATIVE MONTHLY



CATEGORY CUMULATIVE MONTHLY



CATEGORY CUMULATIVE MONTHLY
















 Soon to be 15 counties with Executive Orders for drought

 Late April and early May precipitation beneficial to streamflows throughout much of state

Although streamflow response is encouraging, proceed with caution in drought-afflicted areas
Little snowpack to sustain flows



OREGON



WATER RESOURCES D E P A R T M E N T

QUESTIONS?



Reclamation Storage Update

Oregon Water Supply Availability Committee Meeting

May 11, 2022

Basin Operations Summary

- Operations Activities:
 - Irrigation is underway
 - Wet conditions have suppressed demand for most river basins
 - Minor flood risk management occurring at McKay & Scoggins reservoirs
- Water Supply Notes
 - Water supply allotments are heavily reduced
 - Owyhee (50%), Malheur (30% to 60%)
 - Reservoir conditions support drought declarations to-date
 - Crook, Jefferson, Klamath, Harney, Malheur, Deschutes, & Baker Counties



Storage Conditions

120%

100%

80%

60%

40%

20%

0%

120% 107% 101% 96% Oregon Reservoir Storage (Apr 12 2022) 100% 100% 102% 92% 80% 85% 65% 79% 57% 63% 60% 58% 0 40% 35% 40% 46% 45% 31% 29% 18% 17% 23% 18% 289 20% 89 Deschutes Umatilla **6** 63/253 Malheur Powder 2/2 Crooked 1/88 **15/116** angoy Tualatin <mark>25</mark> Burnt 52/81 308/715 Owyhee 2% 0% 155/342 Deschutes Crooked / Powder <mark>/6</mark> Umatilla 9/9 Tualatin <mark>65</mark> Burnt 52/52 326/715 76/253 21/116 Owyhee - BUREAU OF — Rogue Malheur Percent Full (Active Storage) O Percent of Average (Apr-12 '91-'21 RECLAMATION Current/Full Storage (KAF) BUREAU OF -Percent Full (Active Storage) O Percent of Average (May-8 '91-'21) RECLAMATI **Current/Full Storage (KAF)**

Oregon Reservoir Storage (May 8 2022)

Owyhee River Basin





Flows (cfs)



200

180

Warm Springs Dam and Reservoir

250

200

150

100

50

0

250

200

150

100

50

0

Sep

Aug

-Outflow

Flows (cfs)

Sep

Flows (cfs)

Malheur River Basin

*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows Outflow

Oct

Nov

Dec

Jan

Feb

Mar

Apr

May

Jun

Jul

Malheur River Basin





Burnt River Basin





Powder River Basin





Crane Prairie Dam and Reservoir

Deschutes River Basin





Wickiup Dam and Reservoir



Deschutes River Basin







Bowman Dam - Prineville Reservoir





- Calculated Inflow

-Outflow

Storage Content 10th & 90th Percentiles Storage Content 25th and 75th Percentiles





Rogue River Basin

05/08/2022







*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows



05/08/2022





Tualatin River Basin





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